BANK TRANSPARENCY: COST OF CAPITAL AND RETURN ON CREDIT ISSUES

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Abstract

Recent credit market problems have resulted in actions by Congress, the Bush and Obama Administrations and regulatory agencies to preserve the integrity of the banking system. Although the issue of bank transparency has not been considered as integral to the development of a comprehensive policy for the American banking system, there are significant gaps in the data required to analyze conditions in banking and to develop possible remedies. This paper analyses certain elements integral to U.S. and international banking: 1.) the concept of bank transparency in an environment where the ownership and control of leading financial institutions is no longer subject to the rights and limitations inherent in traditional private ownership; 2.) the requirements of the Basel protocols and of the Sarbanes-Oxley Act; 3.) the cost of capital for the banking industry, which has been a private matter and subject to educated conjecture but not widespread understanding; and 4.) the returns earned by the most significant credit product used by business, lines of credit, and the problems in receiving fair returns for the capital invested.

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1. Introduction

The current credit crisis has significantly impacted the U.S. and global banking industries. While there have been past concerns about the integrity of the banking system, the scale of government loans and assumption of ownership, at least temporarily, is unprecedented in scope. Recent nearly catastrophic incidents have resulted in actions by the regulatory agencies to preserve the integrity of the banking system, and by the U.S. Congress and the Obama Administration in proposing a new regulatory structure for oversight of the financial system.

Until now, the issue of bank transparency has not been considered as integral to the development of a comprehensive policy for the American banking system. The concept of "bank transparency" involves "public disclosure of reliable and timely information that enables the use of that information to make an accurate assessment of a bank's financial condition, performance, business activities, risk profile and risk management practice" (Basel Committee, 1998, page 1). There is widespread access to information about the industry through such organizations as the Federal Reserve System, the Bureau of Economic Analysis (of the Department of Commerce), the Department of the Treasury, the Office of the Comptroller of the Currency, and for global financial institutions, the Bank for International Settlements. However, there are significant gaps in the data required to analyze conditions in banking and to develop possible remedies.

This paper focuses on issues integral to U.S. and international banking:

- The concept of bank transparency in an environment where the ownership and control of leading financial institutions is no longer subject to the rights and limitations inherent in traditional private ownership.
- The cost of capital for the banking industry, which has been a private matter and subject to educated conjecture but not widespread understanding.
- The returns earned by the most significant credit product used by business, lines of credit, and the problems in receiving fair returns for the capital invested.

Specific recommendations are suggested to improve bank transparency, to better manage the credit process, and to enhance future returns.

2. Bank Transparency

The purpose of bank regulation is to eliminate systemic, depositor and taxpayer risk to the extent possible, and to assure reasonable (but not excessive) returns. This can only occur if bank managers, regulators and other market participants have timely access to reliable information that enables them to evaluate a bank's activities and the risks inherent in those activities. While the banking systems of other countries have been criticized for a lack of transparency (Chen, 2000; Alexander, 2004), the situation has certainly come to the shores of the U.S. in the financial crisis that began in earnest in 2008. The procedural requirements of bank transparency bears examination in the context of the unprecedented taxpayer rescue of various American banks.

Unlike firms in the nonfinancial sector of industry, a mismanaged bank may cause a run on that bank and on other financial institutions perceived as susceptible to failures

in their counterparty obligations.[1] The traditional approach of corporate governance in the financial sector has involved regulators exercising statutory authority to develop procedural standards. This approach has been somewhat compromised as deregulation has led to the emergence of global financial markets, allowing banks to expand international operations and enter into multiple lines of financial business. Complex risk-management strategies developed that allowed financial products to be priced and risk exposures to be hedged to improve expected profits while generating unacceptable levels of risk and problems of liquidity.

3. Bank Transparency in Basel I and II

The Basel Committee on Banking Supervision has attempted to address the issue of corporate governance of banks and multinational financial conglomerates, and has issued several reports addressing specific topics on corporate governance and banking activities. These reports set forth the essential strategies and techniques for the sound corporate governance of financial institutions, including "conducting corporate governance in a transparent manner" (Basel Committee I, page 8).

The New Basel Capital Accord (widely known as Basel II) contains a detailed framework of rules and standards that supervisors can apply to the practices of senior management and the board for banking groups (Basel Committee II). Bank supervisors will now have the discretion to approve a variety of corporate-governance and risk-management activities for internal processes and decision-making, as well as substantive requirements for estimating capital adequacy and a disclosure framework for investors.

Pillar Three of Basel II addresses corporate governance concerns by focusing on transparency and market-discipline mechanisms to improve the flow of information between bank management and investors. The goal is to align regulatory objectives with the bank's incentives to earn profits for its shareholders. Proposals are included to improve transparency by linking regulatory capital levels with the quality of disclosure. Under this approach, shareholders would possess more and higher quality information with which to make decisions about well-managed and poorly-managed banks. These standards of corporate governance are scheduled to become international in scope and to be implemented into the regulatory practices of the leading industrial nations.

4. Bank Transparency in Sarbanes-Oxley

American corporate governance has not gone as far as Basel II, although Section 401 of the Sarbanes-Oxley Act of 2002 (Public Law 107-204) required the SEC [the Commission] to report on "… any recommendations of the Commission for improving the transparency and quality of reporting off-balance sheet transactions in the financial statements and disclosures required to be filed by an issuer with the Commission." The

[1] A counterparty is the other side of a transaction, be it a vendor, customer or other market participant. These relationships, particularly in banking, involve huge monetary commitments and trust between the counterparties, and a lack of trust in the ability to settle commitments to repurchase securities eventually led to the failures of Bear, Stearns and Lehman Brothers. There has been some coverage of this situation in the business press; for a discussion of the Bear Stearns situation, see Kelly (2008).

result was a series of recommendations published in 2005, although no administrative or legislative action has yet resulted.[2]

The public, acting through Congress, the U.S. Treasury Department and the Federal Reserve System, has made presumably temporary investments in certain troubled members of the banking industry. As a result, it can be argued that information previously held as confidential should no longer be treated as such.[3] Taxpayers and/or appropriate government agencies have the right to understand how decisions are made using debt and equity capital that may be subject to public guarantees and subsidization in the event of catastrophic losses. As significant components of the asset and liability–net worth portions of the balance sheet, returns on credit products and costs of capital constitute two of the most important of these information elements that could be considered for public disclosure.

5. Bank Cost of Capital

Until recently, there were no systematic attempts at developing cost of capital estimates for the U.S. banking industry. Maccario, Sironi and Zazzara (2002) have now provided data on capital costs based on the IBES database, containing historical and forecast earnings for publicly-listed companies in various countries. The purpose of their research was to compare U.S. banking results with that of other developed economies, and so the analysis stopped before a comprehensive calculation was achieved. Table 1 provides this valuation, with a weighted average cost of capital estimated at about 6% for the period 1993 – 2001. This result determines the minimum threshold return that must be earned by banks on the various products and services provided to customers in order to prevent the destruction of shareholder value.

[Insert Table 1 here]

The banking industry is probably unique in our economic system in having a consistent cost of capital regardless of the size, risk or financing of specific member institutions. This is because of the substantial regulation governing acceptable levels of asset risk, lending protocols, minimum capital requirements, and other factors that are unique to specific companies in other industries. The primary variation in banking is in the cost of equity capital, with smaller and riskier institutions required to pay a premium to float new stock and/or to pay higher dividend yield than banks considered as safer investments. The impact of this factor is relatively minor, with equity a constant 8 to 9% of total assets throughout the period studied.

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[2] "For purposes of this Report, the Staff characterizes 'transparent' financial reporting as reporting that provides investors and other users of financial statements with appropriate information to assess the material risks, rewards, rights, and obligations associated with arrangements;" Securities and Exchange Commission (2005), at p. 12.

[3] Curiously, there has not been recent in-depth exploration of this issue in legal scholarship. The leading discussion probably is Allen (1987), who concludes that there is no clear corporate expectation to privacy, particularly for such regulated industries as banking.

6. Bank Lines of Credit

Bank lines of credit are borrowing facilities for a stated amount of unsecured credit for a specified time period, usually one year. While the Federal Reserve does not specify the extent of lines of credit activity in its publications, available statistics show that commercial and industrial (C&I) loans are typically 20 to 25 percent of all loans and leases, and lines of credit are the most important lending mechanism within the C&I sector, probably constituting 15 percent of all bank loans and leases.[4]

Lines of credit may be committed, where a fee has been paid to guarantee the borrower's access to the funds. The cost of a committed line is about ⅓rd of one percent, with typical pricing of the used portion of the line is about 1½ to 2 percent above Federal funds or LIBOR. These data are available from several sources; for example, see Sufi (2009). The line may also be uncommitted, when no fee has been paid. Banks generally make best efforts to provide funds for uncommitted lines although may be unable to do so during times of significant economic distress. Until these lines are drawn by the borrower, the potential liability to the banking institution does not appear on the balance sheet but is noted in the accompanying footnotes.

Credit lines are used as short-term sources of liquidity, often when seasonal cash disbursements exceed cash collections. In addition, lines of credit support the issuance of commercial paper, which are notes issued by creditworthy companies without any collateral backing. Covenants often apply to lines of credit and other types of loans, such as revolving credit agreements which have longer durations.[5] These covenants are restrictions that require a certain level of performance by borrowers, including limitations on new debt beyond current borrowings, changes in business strategies or senior management, and various financial compliance requirements, often as measured by standard ratios in such categories as liquidity, leverage, activity and profitability.

7. The Profitability of Credit Lines

The returns on lines of credit were previously estimated by the author (Sagner, 2002, Chapter 5), and the model used in that research has been substantially revised for the purposes of developing the analysis reported in this paper. Risk-adjusted returns are provided in Table 2, showing returns on committed lines, and Table 3, showing returns on uncommitted lines. The allocation of capital to each loan type is based on standard risk-adjusted return on capital (RAROC) standards as required in the Basel protocols. The revenue to the bank is net of the costs of officer calling, credit review and loan documentation. Default rates on lines of credit were analyzed using data from the Dealscan database available through the Loan Pricing Corporation (Sufi, 2009, Table 7).

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[4] Individual bank call reports provide statistics on lines of credit, as do SEC filings including 10-K and annual reports.

[5] As with other types of bank lending, banks are now more restrictive in their revolving loan agreements, with shortened durations and higher fees; Ng (2009).

[Insert Tables 2 and 3 here]

As is shown in these analyses, U.S. banks can only make positive returns – between 10 and 11 percent – when at least a nominal committed fee is earned. Uncommitted lines return 6.7% after default losses are included, which is just about equivalent to the bank cost of capital given the customary imprecision in compiling these calculations. The seemingly illogical decision of banks to provide lines of credit without commitment fees is due to three factors:

1. Banks have used profitability models only since about 1985, and the assumptions in these models are of questionable validity given the strong negotiating position of large corporate borrowers, at least until the present credit crisis. In other words, a strong corporate can effectively negotiate away commitment fees and other loan covenant conditions, and banks have been unwilling to hold the line on cost recovery strategies.

2. Credit products have been subsidized in the past by non-credit products, including cash management, shareholder services, trade finance, and trust and fiduciary services, and since the passage of the Gramm-Leach-Bliley Act of 1999, by investment banking. Banks may knowingly (or unknowingly) provide no or low return credit products such as credit lines in order to have the opportunity to sell higher return non-credit products.

3. Certain groups of companies are profitable to banks for credit products. These include middle market and small businesses, and situations where reasonable returns can be earned in specific industries due to the absence of lending competition. Examples of the latter include the brokerage industry, where certain banks dominate securities lending, e.g., Bank of New York Mellon and J.P. Morgan Chase, and commodities lending, J.P. Morgan Chase, Northern Trust and Bank of America.; and factoring, which has been largely provided by non-bank financial companies but could be an attractive market should CIT fail to regain market share post-bankruptcy.

8. Global Banking Returns

It is apparent from Table 4 data that the experience in the U.S. with regard to the financing of the banking industry is substantially at variance from other countries, particularly with regard to the cost of equity capital. The mean difference between the country and banking cost of equity capital is negligible for the countries examined, indicating that banking is perceived as equivalent to the risk and return from other investment opportunities. In the case of the U.S., banks have traditionally been perceived as substantially less risky as other investments; in this sample, the difference between American country and banking industry equity costs were 17.7% lower during the period under study.

The fallacious perception by investors that U.S. banking is not risky – as we now know from the events of the previous two years – has led to heroic efforts to prevent systemic failure, the loss of billions of dollars of market value in bank debt and equity, the disappearance of important financial institutions, and the ongoing consideration of new regulation and law. It is not being suggested in this paper that a single action would have prevented these outcomes. However, greater bank transparency would allow bank managers, depositors, shareholders and regulators to better understand the costs and returns from various financial institution activities.

[Insert Table 4 here]

9. Conclusions

There are several possible outcomes if steps toward improving bank transparency were implemented.

- More informed pricing of products. Although this discussion has focused on the cost and returns from lines of credit, banks have traditionally under- or overpriced specific products to meet competitive pressures. This is a highly debatable process in the context of the prospect of bank failure and the requirements of Basel I and II. Should taxpayers be required to subsidize lines of credit, providing underpriced lending facilities to the largest corporations, when similar relief is not available to medium and small business, or to individuals?

- Recovery of bank cost of capital. The struggle to earn the cost of capital may have lead to unacceptably risky strategies by certain banks, including securitization, sub-prime lending, the use of flawed risk-assessment models, an undue dependence on credit card loans, lending on commercial real estate, and other actions. Costs of capital and returns by product line should be understood by regulators and supervisory government agencies, and banks must be encouraged to earn the threshold requirement to avoid destroying shareholder value.

- Market perception of the risk/reward relationship. The experience of global banks clearly indicates that the markets have seriously underestimated the risk of U.S. banks. Transparency would assist investors in correctly pricing such risk, and may encourage greater operational efficiency and more thoughtful allocation of capital.

Table 1
Components of calculation of bank cost of capital ($ billions)

Sec. A: Financing	Assets		Liabilities						Owners Equity
	C+I Loans	TAssets	DemDpt	TimeDpt	Borrow-ings	S-T Debt	L-T Debt	TLiab	Net Worth
1993	$591.10	$3649.1	$816.6	$1714.8	$537.4	$1354.0	$1975.0	$3329.0	$320.1
1994	$650.60	$3877.3	$796.7	$1734.8	$637.4	$1434.1	$2120.7	$3554.8	$322.5
1995	$720.70	$4217.2	$773.4	$1890.0	$717.1	$1490.5	$2367.0	$3857.5	$359.7
1996	$780.00	$4387.9	$713.9	$2138.9	$730.3	$1444.2	$2577.6	$4021.8	$366.1
1997	$847.80	$4790.8	$687.1	$2396.3	$853.6	$1540.7	$2828.5	$4369.2	$421.6
1998	$939.60	$5261.7	$670.7	$2603.2	$1017.5	$1688.2	$3100.9	$4789.1	$472.6
1999	$990.20	$5577.2	$631.9	$2825.5	$1118.5	$1750.4	$3324.1	$5074.5	$502.7
2000	$1078.40	$6066.4	$598.8	$3156.2	$1236.4	$1835.2	$3731.1	$5566.3	$500.1
2001	$1018.00	$6417.2	$632.3	$3483.4	$1245.5	$1877.8	$3969.6	$5847.4	$569.8

	Sec. B: Costs of Debt & Equity (%)			Sec. C: Proportion of Debt & Equity (percent)			Sec. D: Calculation of WACC (Sec. B Costs times Sec. C Proportions)			
	CSTDbtCp	CLTDbtCp	CEqCap	S-T Debt/TA	L-T Debt/TA	NW/TA	WACS-TDbt	WACL-TDbt	WACEqCap	TlWACC
1993	3.00	7.30	9.90	0.371	0.541	0.088	0.0111	0.0395	0.0087	0.0593
1994	5.70	6.30	10.20	0.370	0.547	0.083	0.0211	0.0345	0.0085	0.0640
1995	5.10	7.80	11.90	0.353	0.561	0.085	0.0180	0.0438	0.0101	0.0720
1996	5.20	5.90	9.00	0.329	0.587	0.083	0.0171	0.0347	0.0075	0.0593
1997	5.30	6.40	8.20	0.322	0.590	0.088	0.0170	0.0378	0.0072	0.0620
1998	4.40	5.70	5.90	0.321	0.589	0.090	0.0141	0.0336	0.0053	0.0530
1999	5.20	4.80	7.30	0.314	0.596	0.090	0.0163	0.0286	0.0066	0.0515
2000	5.90	6.40	9.00	0.303	0.615	0.082	0.0178	0.0394	0.0074	0.0646
2001	2.00	5.20	8.10	0.293	0.619	0.089	0.0059	0.0322	0.0072	0.0452

See attached notes

Notes for Table 1:

Section A: Financing

Assets:
- C&I Loans
- Total Assets (TAssets)

Liabilities:
- Demand Deposits (DemDpt)
- Time Deposits (TimeDpt)
- Borrowings
- Short-Term Debt (S-T Debt)
- Long-Term Debt (L-T Debt)
- Total Liabilities (TLiab)

Net Worth

Section B: Costs of Debt & Equity
- Cost of Short-Term Debt Capital (CSTDbtCp)
- Cost of Long-Term Debt Capital (CLTDbtCp)
- Cost of Equity Capital (CEqCap)

Section C: Proportion of Debt & Equity (percent)
- Short-Term Debt ÷ Total Assets (S-T Debt/TA)
- Long-Term Debt ÷ Total Assets (L-T Debt/TA)
- Net Worth ÷ Total Assets (NW/TA)

Section D: Calculation of WACC
- Weighted Average Cost of Short-Term Debt (WACS-TDbt)
- Weighted Average Cost of Long-Term Debt (WACL-TDbt)
- Weighted Average Cost of Equity Capital (WACEqCap)
- Total Weighted Average Cost of Capital (TlWACC)

Sources:

Federal Reserve Board, "Assets and Liabilities of Commercial Banks in the United States," Statistics and Historical Data, Table H.8, July 2009; at www.federalreserve.gov/econresdata/releases/statisticsdata.htm.

Aurelio Maccario, Andrea Sironi, and Cristiano Zazzara, "Is Banks' Cost of Equity Capital Different Across Countries? Evidence from the G10 Countries Major Banks" (May 2002), SDA Bocconi Research Division Working Paper No.02-77, Table 9; at ssrn.com/abstract=335721.

Table 2
Calculation of returns on committed lines of credit

Sections A, B & C									
	A: Return before Credit Underwriting						B: Return After Credit Underwriting		C: Return After Default
	Revenue to Bank ($000)	Fee (in basis points)	Credit Facility	Capital Alloca-tion	% Cap All	% Return	Revenue to Bank ($000)	% Return	% Return
Not Drawn									
Short-Term	$ 50.0	20 bp	$25MM	$0	0%	Infinite	$ 25.0	INF	
Long-Term	$ 125.0	25 bp	$50MM	$1.0MM	2%	12.50%	$ 85.0	8.50	
Total Return	$ 175.0			$1.0MM		17.50%	$ 110.0	11.00	10.13%
Drawn									
Short-Term	$ 137.5	55 bp	$25MM	$1.3MM	5%	11.00%	$ 112.5	9.00	
Long-Term	$ 400.0	80 bp	$50MM	$2.5MM	5%	16.00%	$ 360.0	14.40	
Total Return	$ 537.5			$3.8MM		14.33%	$ 472.5	12.60	11.60%

Notes:
Cap All = capital allocation (under Basel II rules)
INF: infinite
Drawn (borrowed) credit facilities display fee income for 3 years.
Interest calculated as simple interest, without regard to the time value of money.
% Return: $ Revenue divided by Capital Allocation
Section C % Return: Section B Total Return less the default rate of 7.9%, divided by Capital Allocation

Assumptions:
For drawn (borrowed) lines of credit, the fee includes the commitment fee from the not drawn portion + 35 bp above LIBOR
for short-term and 50 bp above LIBOR for long-term.
Credit underwriting costs are $25,000 for short-term and $40,000 for long-term lines of credit.
Fee in bp is multiplied times the credit facility to derive the revenue to the bank.

Source for default rates:
Amir Sufi, "Bank Lines of Credit in Corporate Finance: An Empirical Analysis," *Review of Financial Studies*, Vol. 22 (2009), pp. 1057-1088, at Table 7; at ssrn.com/abstract=723361.

Table 3
Calculation of returns on uncommitted lines of credit

Sections A, B & C									
	A: Return before Credit Underwriting						**B: Return After Credit Underwriting**		**C: Return after Default**
	Revenue to Bank ($000)	Fee (in basis points)	Credit Facility	Capital Allocation	% Cap All	% Re-turn	Revenue to Bank ($000)	% Return	% Return
Short-Term	$ 87.5	35 bp	$25MM	$1.25MM	5%	7.00%		5.00%	
Long-Term	$ 250.0	50 bp	$50MM	$2.50MM	5%	10.00%	$210.0	8.40%	
Total Return	$ 337.5			$3.75MM		9.00%	$272.5	7.27%	6.69%

Notes and Assumptions:
See Table 3. In addition:
For drawn (borrowed) lines of credit, the fee includes the commitment fee from the not drawn portion + 35 bp above LIBOR for short-term and 50 bp above LIBOR for long-term.
Credit underwriting costs are $25,000 for short-term and $40,000 for long-term lines of credit.

Table 4
Country financing costs (1993 – 2001) (in %)

	Long-Term (L-T) Interest Rate	Country Ke	Banking Ke	Banking Ke less L-T Interest Rate	Country Ke less Banking Ke	Difference: Country & Banking Ke
Belgium	5.01	8.67	8.90	3.89	-0.22	2.58
Canada	6.80	10.75	12.03	5.23	-1.28	11.90
Switzerland	3.94	6.63	8.16	4.22	-1.53	23.11
Germany	5.87	7.01	6.98	1.11	0.02	-0.35
France	5.98	7.38	7.67	1.68	-0.29	3.93
Great Britain	6.62	9.56	8.88	2.27	0.67	-7.03
Italy	7.81	8.71	7.64	-0.17	1.07	-12.24
Japan	2.78	2.43	2.79	0.01	-0.36	14.80
Netherlands	5.78	10.15	9.04	3.26	1.10	-10.85
U.S.	6.20	10.72	8.82	2.63	1.90	-17.68
Mean	5.68	8.20	8.09	2.41	0.11	-1.31

Notes:
L-T: long-term; Ke: cost of equity capital
% Difference Cty & Bk Ke: Country Ke less Banking Ke as a % of Country Ke
Although included in the source data, Spain and Sweden have been excluded from these calculations as those countries had insufficient global banks for a representative sample.

Source: Calculated by the author from data in Aurelio Maccario, Andrea Sironi, and Cristiano Zazzara, “Is Banks' Cost of Equity Capital Different Across Countries? Evidence from the G10 Countries Major Banks,” (May 2002), SDA Bocconi Research Division Working Paper No. 02-77, Table 9; at ssrn.com/abstract=335721.

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